

CLAIMS

What is claimed is:

1 1. An application specific integrated circuit (ASIC) comprising:
2 a standard cell, the standard cell including a plurality of logic functions;
3 at least one bus coupled to at least a portion of the logic functions;
4 a plurality of internal signals from the plurality of logic functions; and
5 a field programmable gate array (FPGA) function coupled to the at least one bus and
6 the plurality of internal signals, the FPGA function including a debug client function that
7 observes and manipulates the at least one bus and the plurality of internal signals.

1 2. The ASIC of claim 1 wherein the at least one bus comprises an internal bus.

1 3. The ASIC of claim 2 wherein the debug client function observes and
2 manipulates at least one point of interest on the standard cell.

1 4. The ASIC of claim 1 wherein the debug client function is programmed by a
2 server.

1 5. The ASIC of claim 1 wherein the debug client function further includes:
2 an external communicator logic function for receiving and transmitting
3 information to a server;
4 selector logic coupled to the at least one bus and the plurality of internal signals,
5 and

an interface logic coupled between the external communicator logic and the selector logic for providing communication therebetween.

6. The ASIC of claim 5 wherein the interface logic comprises:
 - a storage logic function for storing a state of signals of interest from the selector logic and providing the state to a server;
 - a comparator logic function coupled to the storage logic function for comparing the signals of interest from the selector block function; and
 - an output logic function coupled to the comparator logic function for controlling the internal signals on the ASIC.

7. The ASIC of claim 4 wherein the server utilizes the debug client to debug hardware within at least one of the plurality of logic functions.

8. The ASIC of claim 4 wherein the server utilizes the debug client to debug software within at least one of the plurality of logic functions.

9. A debug client function within an application specific integrated circuit (ASIC), the debug client function being within a field programmable gate array (FPGA) function; the client debug function comprising::

an external communicator logic function for receiving and transmitting information concerning a plurality of signals of the ASIC to a server; selector logic coupled to the at least one bus of the ASIC and the plurality of

7 internal signals, and
8 an interface logic coupled between the external communicator logic and the
9 selector logic for providing communication therebetween.

1 10. The ASIC of claim 9 wherein the at least one bus comprises an internal bus.

1 11. The ASIC of claim 9 wherein the debug client function observes and
2 manipulates at least one point of interest on the standard cell.

1 12. The ASIC of claim 9 wherein the debug client function is programmed by a
2 server.

1 13. The ASIC of claim 9 wherein the interface logic comprises:
2 a storage logic function for storing a state of signals of interest from the selector
3 logic and providing the state to a server;
4 a comparator logic function coupled to the storage logic function for comparing
5 the signals of interest from the selector block function; and
6 an output logic function coupled to the comparator logic function for
7 controlling the internal signals on the ASIC.

1 14. The ASIC of claim 12 wherein the server utilizes the debug client to debug
2 hardware within at least one of the plurality of logic functions.

1 15. The ASIC of claim 12 wherein the server utilizes the debug client to debug
2 software within at least one of the plurality of logic functions.